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A WEEKLY EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(251) Varicose Veins in the Œsophagus.

AT a meeting of the Société Médicale des Hôpitaux on October 17th (*Revue Générale de Clin. et de Thér.*, October 22nd, 1890), M. Letulle related the case of a man, aged 40, an inveterate drunkard, who had been admitted to the Hôpital Tenon two years before for frequent hæmatemesis. The spleen was "enormously" enlarged, the liver small; no ascites. The hæmorrhage was usually preceded for some hours by a sensation of heat in the epigastrium, shooting through all the limbs. The blood flowed from both nose and mouth, the average quantity lost on each occasion being from 500 to 600 grammes. The hæmorrhages occurred every two months for about a year and a half. There was no vomiting of food nor any disturbance of digestion. Death was caused by an attack of hæmatemesis more copious than usual. On *post-mortem* examination the liver was found to be a little fatty, but the hepatic cells were perfectly normal. The spleen was cirrhosed and weighed 600 grammes, there was slight sclerosis of the pancreas, and there was chronic peritonitis of the whole subumbilical region. There was complete thrombosis of the ends of the mesenteric veins and of the trunk of the vena portæ. Collateral venous circulation had been established through the splenic, coronary, gastric, and œsophageal veins. The latter were varicose, many of them being as large as a goose quill. Two of them had recently ruptured and given rise to the fatal bleeding. The case was considered remarkable by M. Letulle on account of the absence of cirrhosis of the liver. He explains this by the obliteration of the veins which would otherwise have conveyed the alcoholised blood to the liver. He thinks the case proves that the formation and rupture of the œsophageal varices may be attributable to plethora of the gastro-œsophageal circulation. A case of death due to hæmorrhage from a varicose ulcer of the œsophagus was reported by Arnaldo Viti, assistant to Professor C. Sanquirico, of the Pathological Institute of the University of Siena (*Riforma Medica*, January 22nd, 1890). The patient, a waiter of alcoholic antecedents, had been brought to the hospital in a state of extreme anæmia, the result of an abundant hæmatemesis which had taken place some days before, and died two days after admission, after bringing up about two litres of red blood. He had long suffered from pain in the epigastrium and vomiting after taking food. *Post mortem* there was marked anæmia of all the internal organs, with many old adhesions, especially between the capsules of the spleen and liver and the diaphragmatic peritoneum; the liver was smooth and normal in size and consistence, the spleen slightly enlarged and thickened, the kidneys healthy. The stomach, which contained more than a litre of blood, showed no dilatation of vessels or ulceration. On slitting up the œsophagus the mucous lining was seen to be pale, but bulging underneath, at the lower part of the tube were found enlarged veins with swellings at irregular intervals. About 9 centimètres above the cardiac orifice a tiny ulcer was found communicating directly with an enlarged vein underneath, the mucous membrane for some little distance round being considerably inflamed. The aperture was closed by a small blood clot and it was from this spot that the hæmorrhage had taken place. No other lesion was found to account for the bleeding. The œsophagus was the seat of sacciform dilatation just above the cardiac orifice, and the patient had been in the habit of making himself vomit in order to relieve the feeling of weight from which he suffered after meals.

(252) Motor Symptoms and Conditions of the Ocular Apparatus in Imbecility, Epilepsy, and the Second Stage of General Paralysis of the Insane.

OLIVER (*American Journal of the Medical Sciences*, November, 1890) comes to the following conclusions: *a*. Intraocular muscles; in epilepsy, iris innervation and action and ciliary innervation and action normal; in imbecility, iris and ciliary innervation normal, iris action sometimes sluggish for convergence and accommodation, though rather more prompt to light stimulus; in general paresis, more or less irregularities in the form of the pupil, its action lessened to light stimulus, ciliary muscle action and innervation lessened. *b*. Extraocular muscles: in epilepsy, extraocular action and innervation normal; in imbecility, extraocular action and motion normal; second stage of general paresis, extraocular muscles generally show insufficient innervation, especially on attempts to converge, and their action is weakened, for there is frequent nystagmus.

(253) The Medico-Legal Value of Electricity in Diagnosis.

DR. W. B. PRITCHARD (*New York Med. Journal*, November, 1890) reports a case of traumatic neuritis in which electricity proved of great service in aiding the diagnosis. A man, aged 49, received an injury to his shoulder under circumstances which would have entitled him to some compensation if any permanent damage had been done. When the swelling had gone down he complained of great pain in and around the shoulder, and of inability to raise the arm from his side. It could not at the time be determined whether this was due only to the pain, or whether there was loss of muscular power. There were tenderness and pain in the areas supplied by the

supra-acromial branch of the cervical plexus and circumflex nerves, and some hyperæsthesia of this region. In the course of the next few months the pain and weakness remained much about the same, and it was then found that the circumflex nerve gave the reaction of degeneration. This set all doubt as to the existence of a traumatic neuritis at rest, and the patient succeeded in obtaining compensation without going into court.

SURGERY.

(234) The Cystoscope in the Diagnosis of Surgical Affections of the Kidney.

A DISCUSSION on this subject took place at the last meeting of the Medical Society of Berlin, and is reported in the *Deutsch. med. Zeitung*, November 20th, 1890, p. 1054. The discussion followed a paper on this subject by Nitze, in which he spoke most enthusiastically of the value of this mode of diagnosis. His paper, which will be published *in extenso*, was not reported. Dr. Israel, referring to his own experience, said it was not as favourable as that of the author of the paper. There were three questions which awaited solution in the cases referred to by Nitze. (1) Were there two kidneys present? (2) Was the second kidney sound, or at least sufficiently so for practical purposes? (3) On which side was the affected kidney? The first question was by no means always easy to decide, either with or without the cystoscope. For himself he doubted whether the fact that only one ureter could be seen could be regarded as implying with certainty that it did not exist: whilst though it was an extremely rare abnormality, yet it was just possible that both the ureters might come from a single kidney, and no second one be present. But a much more important question for the surgeon was to determine beforehand the secreting capacity of the kidney he was proposing to leave behind. This, so far as he knew, was beyond the powers of the cystoscope; all it could do was to determine whether the urine was clear, thick, or bloody. Suppose it was thick, this did not necessarily contraindicate an operation, nor was clear urine a sure prelude to success. The worst foe with which one had to contend in kidney extirpation was the shrinking of the opposite kidney, and no cystoscope would throw light on this. Lastly, in reference to the question where the lesion was situated, even here the cystoscope might be absolutely misleading. He knew of one instance in which bleeding supervened from the kidney and caused a patient's death, whilst at the same time he had a malignant tumour growing in his opposite kidney. It was well known, too, that the amount of blood which flowed from a malignant kidney was subject to the greatest variations. Bleeding might appear early in the course of the disease, or late, or might never supervene at all. If the bleeding occurred early in the disease, before any enlargement of the kidney had taken place, even if the cystoscope indicated its source to be the right ureter, he doubted whether any surgeon would be justified in at once operating on the right kidney, without waiting for some confirmatory diagnosis. He quite admitted that some important information might be derived from its employment, but there were many pitfalls to be avoided, so much so that he doubted whether in patients with tender urogenital canals, the cystoscope would give sufficient information to make it worth while to employ it. Nitze, in his reply, reiterated the fact that the cystoscope had opened up a new era in diagnosis. If it was not a perfect method of ascertaining the secreting capacity of both kidneys, it was at least better than any other that had hitherto been tried. It certainly would indicate in all but the most exceptional cases whether a kidney was present. If the second kidney was diseased it could not be much affected, and probably not to a sufficient extent to matter, unless it emitted dark and turbid urine. He felt sure that the cystoscope was a most important confirmatory means of diagnosis, especially in those instances where time alone without it would enable a diagnosis to be made.

(235) Sterilisation of Instruments.

DR. ROBERT MUENCKE (*Centralbl. für Bakteriologie u. Parasitenk.*, Bd. viii, No. 20, November 6th, 1890) describes a new apparatus for the sterilisation of instruments, bandages, and other surgical apparatus by means of circulating steam at a slightly raised pressure, by which the temperature is kept up to about 102° C. It is constructed in the form of a cylinder, which is stronger than the rectangular form; beneath this is a reservoir in which the water is boiled. By means of a small safety valve the pressure is not allowed to get too high, whilst there is an arrangement for drawing off the steam after the sterilisation of instruments, bandages, etc., is complete in order that no moisture may be deposited upon them. It may be mentioned that in the *Edinburgh Medical Journal* of August Mr. C. W. Cathcart, F.R.C.S., described an apparatus for sterilising steel instruments by steam without rusting them, which is constructed on somewhat similar principles, but which is even more satisfactory, as he is able to heat the instruments to boiling point temperature before the steam is allowed to reach them, so that by also drawing off the steam after the sterilisation is complete, no condensed vapour is at any time deposited on the metal instruments. These sterilisers are specially useful for surgeons, but they may also be used in the laboratory with great advantage.

(236) The Formation of a Temporary Biliary Fistula for the Relief of Congestion and Enlargement of Liver.

AT a recent meeting of the Academy of Medicine (reported in the *Bull. de l'Acad. de Méd.* November 4th, 1890), M. Terrier communicated a case in which he had made a biliary fistula for the relief of congestion and enlargement of the liver, with jaundice and fever. The patient was a man, 33 years of age, whose history was that a year ago he had an attack of diarrhœa followed by constipation, and afterwards by jaundice, and biliary vomiting, which occurred three hours after food. Urticaria accompanied the attack, and it was suspected that he might have a hydatid of the liver. The jaundice became more pronounced, and the liver could be felt reaching as far as a point two inches above the anterior superior spine of the ilium; and it extended upwards to the level of the sixth or seventh rib in the nipple line. The gall bladder could not be felt, and was probably undistended. Constipation was habitual, and the motions very pale, whilst the urine was full of bile. On June 9th an exploratory puncture of the liver was made with Potain's aspirator, but only a few drops of blood were drawn off. Afterwards the jaundice increased, and the temperature went up to 40° C. Some improvement afterwards took place in the above symptoms, but the liver remained enormous and painful on pressure, and, therefore, it was determined to ascertain whether or not there was a tumour or, perhaps, a hydatid cyst, pressing upon the hepatic duct. A median incision above and below the umbilicus was made, and the deeply congested liver exposed; the gall bladder, which looked like a loop of

intestine, lay hid beneath its edge. The whole surface of the liver was easily explored with the hand, but nothing could be discovered. It was, therefore, determined to give exit to the bile which, it was evident, never reached the intestine. The gall bladder was, therefore, sutured to the abdominal wall, the incision in which was afterwards closed with three sets of sutures, namely, in the peritoneum, in the aponeurosis, and in the skin. The patient's progress towards recovery was rapid and uninterrupted; the jaundice disappeared; the stools regained their colour: and the liver diminished in size. He afterwards left the hospital with a biliary fistula, which at present is contracting, and will admit a small catheter. In his comments upon this case, Dr. Terrier says that he believes it to be the first in which a French surgeon has made an opening into the abdomen with the object of exploring the liver. The information which the proceeding afforded was very valuable, and the risk trifling when antiseptics were used. The return of the bile in the motions seems quite inexplicable, unless it were due to spasm of the gall duct. As the liver is still larger than normal, it seems as yet inadvisable to close the biliary fistula.

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(257) Plugging the Abdominal Cavity.

DR. G. WALCHER (*Centralbl. f. Gynäk.*, November 15th, 1890) describes a new method of dealing with severe hæmorrhage from the peritoneal cavity after the removal of large tumours, etc. Not only may the patient easily bleed to death, but clots in the peritoneum form a cultivating medium for germs. Drainage by tubes or by gauze has been tried; Dr. Walcher combines both methods. He has contrived very wide glass tubes, with a channel of from nine-tenths of an inch to one inch and a tenth in diameter and from six to nine inches long. The tube is passed into the deepest part of the bleeding cavity or down to the bottom of Douglas's pouch. Then a strip of iodoform gauze about two inches broad is passed carefully down the tube till a good large bunch of the gauze presses against the bleeding part. In one case Dr. Walcher thus inserted a piece larger than a man's fist. The free end of the strip of gauze is left in the tube, which is closed with a plug of wool. An assistant presses the tube against the bleeding spot whilst the operator closes the abdominal wound. The tube is placed in the lower third of the wound. The gauze plug may usually be removed on the second day. By aid of a mirror, attached to the surgeon's forehead, the surface whence the bleeding proceeded may be examined. The wound is closed by sutures passed through its entire thickness, including the peritoneum, when the tube is removed. Should hæmorrhage recur when the first gauze plug is withdrawn, a second plug must be passed down the tube. The great objection to this plugging is its liability to cause retention of flatus. Two cases out of seven in Dr. Walcher's experience suffered in this manner for about two days. The abdominal wound in all the cases healed well, the portion at the site of the tube closing as firmly as the remainder.

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(258) Subhyoid Pharyngotomy for Cancer.

DR. BENNO LAQUER (*Berliner klinische Wochenschrift*, October 27th, 1890) relates a case of subhyoid pharyngotomy for cancer, and adds thereto a summary of the literature of the subject. The patient was a hotel porter, aged 57, whose family history was good, and who enjoyed robust health. The disease was first noticed two months before the operation, and it began with a pricking sensation in the throat, accompanied with a cough and expectoration of mucus. A tumour as big as a florin could be felt at the back of the pharynx, reaching as low as the epiglottis; it was not ulcerated or adherent to surrounding parts. Dr. Cramer was called in to perform extirpation. He began with a preliminary tracheotomy, and intended to proceed forthwith, but there was so much bleeding and dyspnœa that the chief procedure was deferred for two days. The ordinary tracheotomy tube was then replaced by a tampon tube and a transverse incision made along the upper edge of the hyoid bone. The muscles which pass upwards to the hyoid bone were divided, together with the thyro-hyoid membrane and the epiglottis, and the tumour brought into view. The former was pulled aside, and the tumour extirpated by a free incision. The edges of the pharyngeal wound were sutured, and the wound into the pharynx packed with iodoform gauze. The patient rapidly recovered, and was able to swallow fluids on the evening of the first day, and the wound healed, except in the centre, where a small fistula remained, which was closed by a subsequent operation. The tumour was examined microscopically, and was a typical carcinoma. The patient afterwards died of phthisis and inanition, and it was found that, in addition to cavities in the lungs, he had a tumour in the anterior mediastinum, which pressed upon the œsophagus. The pharynx was quite sound.

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(259) Calluslike Tumour of the Male Urethra.

UNDER this title, Dr. Schuchardt (in the *Deutsch. med. Woch.*, November 6th, 1890, p. 993) describes a large swelling which occurred in connection with the urethra in a man, aged 72. There was a history of gonorrhœa many years before, and of some amount of difficulty experienced from time to time in micturition. Ten days previously a hard and painful swelling had appeared in the perineum, and had been opened by a physician under whose care he had been. When he came under Dr. Schuchardt's care the swelling had by no means disappeared, and through the incision came almost the whole of his urine. No instrument could be introduced *per urethram*, but a considerable amount more pus pent up in its interior was evacuated under chloroform. From the chronic condition of the affection, Dr. Schuchardt was inclined to regard it as probably sarcomatous in character, and several pieces were removed for microscopic examination. This examination threw but little light on the nature of the growth; but its subsequent progress, which at the end of three months was most favourable, seemed to negative its malignant character. Later on, however, the fistula and swelling again grew larger. This swelling, which was probably due to a chronic extravasation of urine, seems to be worthy of notice, more especially as the clinical history of the case is by no means a common one, and, notwithstanding an operation undertaken for its relief, it did not seem inclined to result in a complete cure. Chronic cases of this nature in elderly subjects, whatever their exact cause, are not easy to bring to a satisfactory termination so as to cause the whole of the urine to pass *per vias naturales*, and the perineum to become sound.

MIDWIFERY AND DISEASES OF WOMEN.

(260) Leukæmia in Pregnancy and Labour.

DR. J. CHALMERS CAMERON (*Amer. Journ. Med. Sciences*, November, 1890), Professor of Obstetrics M'Gill University, Montreal, has come to the conclusion, as a result of careful investigation, that a leukæmic mother may go to full term and bear a

healthy child. Leukæmia tends to bring on premature labour, or to reduce the patient to such a critical state that premature induction of labour becomes advisable. Leukæmia in pregnant women tends to run a rapidly fatal course, yet occasionally its progress may be slow though progressive. During the first three or four months of gestation a leukæmic patient may not suffer much inconvenience, but as intra-abdominal tension increases her distress becomes greater, grave symptoms rapidly develop, and the patient is quickly reduced to a pitiable condition. Leukæmia does not prevent the occurrence of pregnancy, nor does it seem to limit its frequency. While epistaxis, hæmatemesis, and melæna may occur frequently during the progress of gestation, there may be no uterine hæmorrhage at the time of labour or during the puerperium. Menstruation may be affected; in one case under Dr. Cameron's observation it was scanty and painless before the appearance of leukæmia, profuse and painful afterwards. Leukæmia seems sometimes to have an injurious effect on lactation; one patient had always been a good nurse till the disease set in; thenceforth the function was either suppressed or the milk so altered in quality as to become unwholesome and injurious. The question of hereditary influence or predisposition is unsettled. In one case the grandmother, mother, and brother suffered from symptoms pointing to leukæmia. Two of her own children have had undoubted leukæmia, all have had jaundice, most are subject to epistaxis, and all have glandular enlargement and more or less anæmia. Some of the children will probably develop leukæmia sooner or later. One child, born before the mother showed signs of the disease, ultimately suffered from well-marked leukæmia lienalis. Although a mother does not transmit leukæmia to her child, she may transmit a tendency or predisposition to that disease.

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(261) Cæsarean Section for Eclampsia.

DR. VAN DER MEIJ (*Nouvelles Archives d'Obstétr. et de Gynéc.*, October, 1890) read before the Dutch Gynæcological Society a case where a woman in the eighth month of pregnancy was attacked with convulsions; the kidneys were diseased. The abdominal walls were so œdematous that it was difficult to feel the outlines of the uterus and to hear the fœtal pulsations. The os was very small, and the presenting part of the fœtus could not be reached. As the convulsions continued in spite of hot fomentations, chloral enemata, etc., it was decided to perform Cæsarean section. The operation was simple, and the patient made a good recovery, but the child only lived six days.

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(262) Inflamed Vermiform Appendix in Women.

DR. RICHELOT (*Union Médicale*, November 4th, 1890) has found that the diagnosis of inflammation of the vermiform appendix is more difficult in women than in men, on account of the neighbourhood of the uterine appendages. In one case, perityphlitis, suppurating hæmatocele, and abscess of the broad ligament were diagnosed on reasonable grounds. An exploratory operation was performed, and none of these conditions could be detected. The cæcum was healthy (the tube and ovary absolutely healthy), but the appendix was out of sight, and as occasional pains have since been felt in the right iliac fossa, there was probably an old inflammatory focus behind the cæcum. Dr. Richelot relates another case where a young girl, subject to dysmenorrhœa, had symptoms of acute inflammation of the right tube and ovaries; a firm deposit could be felt to the right of the uterus. An exploratory operation was performed. The tube and ovaries were almost healthy, though drawn up by adhesions to the great omentum. Closely adherent to these structures was a fluctuating cylinder the size of a man's little finger; it was resected, and after suppuration and drainage the patient recovered. The detection on vaginal examination of a deposit to the right of the cervix uteri is particularly misleading. The pain in perityphlitis may, moreover, be referred to the right side of the pelvic cavity, rather than to the corresponding iliac fossa. Pain, again, often radiates to the left side of the pelvis, greatly complicating matters. Surgical intervention should be prompt, for expectant treatment is dangerous, whilst in the early stages of inflamed appendix the operation is relatively easy, and resembles removal of the uterine appendages.

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(263) Sulphate of Copper in Antiseptic Midwifery.

M. TARNIER (*Journal de Médecine de Paris*, September 21st, 1890), employs in his wards a solution of sulphate of copper. This salt has already been recommended by Dr. Charpentier and others. M. Tarnier uses a half per cent. solution of the sulphate in distilled water. It is found that this solution gives no pain to lying-in women when employed as an injection. Another recommendation is, that the solution does not irritate the skin of midwives' and nurses' hands. Above all, it is perfectly antiseptic.

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(264) Milk Enemata in Uncontrollable Vomiting in Pregnancy.

DR. WIESEL (*Wiener med. Presse*, No. 29, 1889) describes a bad case of vomiting in a primipara, aged 20, which was cured by the injection of milk containing table salt (150 grains to the litre—1¾ pint—of milk). At first the result was doubtful, but after a time the patient recovered entirely. Dr. Wiesel attributed the chief merit of his practice of milk enemata to the chloride of sodium, which cured the constipation. Every time that a free motion was passed, the vomiting ceased; when the bowels became confined it recurred, and after a prolonged course of the milk enemata, when a regular action of the bowels was secured, the vomiting never recurred. Dr. Wiesel holds that the state of the bowels has not been sufficiently attended to in cases of uncontrollable vomiting in pregnancy.

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(265) Lupus of the Uterus.

PROFESSOR ZWEIFEL (*Berliner klin. Wochenschrift*, November 10th, 1890) recently read before a German association a case, apparently unique, of lupus of the uterus. In February, 1889, the patient first came under notice. She was 28 years old, married eight years, and the mother of a child aged 7. Her father had died of phthisis, her child had ankylosis of the hip-joint from strumous disease. She complained of floodings, and wished for operation. On microscopical inspection, the disease, then confined to the vagina, proved to be not cancerous. The husband had suffered from chancre, but antisyphilitic treatment did no good. Then the vaginal ulcer was treated as lupus, and was touched with iodoform and painted with Peruvian balsam. Three months later the endometrium was invaded; it was scraped, and tubercle discovered. The uterus was extirpated; it contained a lupous ulcer of the mucous membrane. The wound in the vagina after operation became cancerous, forming a crater-like cavity. It was freely cauterised with fuming nitric acid. When the case was last seen the vaginal ulcer appeared to show signs of healing. Dr. Kocks, of Bonn, related a case of labour impeded by lupus of the cervix. The

patient had lupus of the face. The labour was prolonged; the fœtal head was found to be detained in the pelvis by a firm contraction of the os externum. The cervix was thickly beset with tubercles of the size of millet seeds. A sound was passed into the os, which was afterwards dilated, and the labour terminated satisfactorily. This case shows that lupus of the face may be associated with a similar disease in the pelvis.

(266) Puerperal Albuminuria.

DR. DEAHOFE, of Potsdam, Ohio (*Journ. Amer. Med. Assoc.*, September 27th, 1890), describes a case of very marked albuminuria which attacked a previously healthy primipara in the fourth month of pregnancy. Œdema of the lungs and anasarca were observed. The specific gravity of the urine on one occasion rose to 1042, and then that fluid became almost solid when nitric acid was added. Digitalis, bitartrate of potassium, saline cathartics, and vapour baths were administered. In the fifth month dimness of vision, sickness, and, finally, convulsions set in. A small catheter was passed into the uterus. Nearly twenty-seven hours later the patient was delivered of a female fœtus. Next day the patient suffered from pulmonary œdema on the right side, on which she had lain for some time. On shifting her position this symptom disappeared. The patient thenceforward did well, and was dismissed convalescent on June 1st, 1888. She was delivered with forceps of a healthy male child on May 24th, 1889, just a year after the induced abortion, having passed through her second pregnancy without any of her previous trouble. Dr. Deahofe considered all the opinions of distinguished authorities on puerperal albuminuria. Experience proved that the usual treatment by diuretics was best, hydragogue purgatives, cupping, vapour baths, and ultimately steel and digitalis being required. The diet should consist of skimmed milk and whiting or any fish light of digestion. When all these remedies fail, the advisability of inducing premature labour must be considered, especially when convulsions set in.

DISEASES OF CHILDREN.

(267) Pathological Variations in Human Milk.

DR. T. M. ROTCH, of Boston, in a paper published in the *Archives of Pediatrics* for November, indicates the manner in which precise information is to be sought as to the injurious effect on the health of the infant of disturbance in the health of the suckling mother. He has obtained a number of analyses of the milk of women whose infants were thriving, and in the subjoined table the range of values thus obtained is compared with the "normal average" of the composition of human milk obtained by the most recent analytical researches:—

	Normal Average.	Range observed with Thriving Infants.
Fat	4	3 to 4
Albuminoids ...	1 to 2	1 to 3
Sugar	7	6 to 7
Ash	0 2	0.1 to 0.2
Total solids... ...	12 to 13	10 to 14
Water	88 to 87	90 to 86
	100 to 100	100 to 100

This table tends to show that when the infant is thriving the relative proportions of the solids to each other and to the water vary only within narrow limits. An alteration of the ratio of the total solids to the water is to be noted when the intervals between the nursings are either too short or too long. With a short interval (two hours) the solids were 15.32, the water 84.68; with a long interval (twelve hours) the solids were 10.14, and the water 89 86, that is to say, too long intervals produced a too dilute product, too short intervals a too concentrated product. The effects of diet and exercise on the composition of the milk were found to be very marked. A sedentary life with abundance of rich mixed food, if the mother's digestion was good, increased the ratio of the total solids to the water; this was due to an increase in the albuminoids and fats. The fluctuations in the amount of sugar were less definitely related to change of regimen, and on the whole smaller in amount. Dr. Rotch gives in the following table typical analyses of normal milk from a woman leading a healthy life as to exercise and food, of poor milk (starvation), of over-rich milk (rich feeding, lack of exercise), and bad milk (pregnancy, disease, uncontrolled emotions, etc.).

	Normal.	Poor.	Over-rich.	Bad.
Fat	4.0	1.50	5 10	0 80
Albuminoids ...	1 to 2.0	2 40	3 50	4.50
Sugar	7 0	4 00	7 50	5.00
Ash	0.2	0.09	0.25	0.09
Total solids ...	12 to 13	7.99	16 35	10.39
Water	88 to 87	92 01	83 65	89.61

As a general rule, the amount of fat may be increased by increasing the amount of meat in the diet, and the amount of albumen decreased by moderate exercise. The digestive disturbance in the child produced by the milk of a woman who takes too much food and too little exercise appears to be due, in part at least, to an excess of albuminoids. This is illustrated by the following instructive table. The milk was that of a healthy wet nurse; during period I she was poorly fed, during period II she had rich food and little exercise for a month, and during period III the food and exercise were regulated.

	Period I.	Period II.	Period III.
Fats	0.72	5.44	5.50
Albuminoids ...	2.53	4 61	2.90
Sugar	6.75	6.25	6.60
Ash	0 22	0.20	0.14
Total solids ...	10.22	16 50	15.14
Water	89.78	83.50	84.86

This percentage of albuminoids in the milk contained in the stomach of the child may be reduced by giving a small quantity of sterilised water during the nursing, and if it be accepted that in well-fed women taking little exercise the albuminoids are likely to be in excess, and that this excess is in itself sufficient to produce vomiting, colic, and diarrhœa, then the dilution of the milk in the stomach by water given during a pause in each nursing is a line of treatment which ought to be tried. When the expense of having a series of analyses made is not an object valuable information may thus be obtained. No data are given as to the nature of variations in the qualities of the albuminoids, but Dr. Rotch points out that in the colostrum the albumen is in excess in proportion to the casein, and expresses the opinion that there is a similar excess during periods of sickness and of emotional or other temporary disturbance.

(268) Antisepsis in Scarlatina.

M. HUTINEL, in a recent lecture (*Journal de Méd. et de Chir. Prat.*), has described the treatment adopted in the ward for scarlatina of the Hôpital des Enfants in Paris. Although he considers that it has not yet been established that the streptococcus of Klein is the specific cause of scarlatina, he believes that it has been proved to be the active agent in producing com-

plications; he accepts the opinion that the infecting micro-organism obtains entrance to the human economy through the tonsils and the nasopharynx. Treatment is specially directed to the disinfection of this region; the mouth and adjacent parts are irrigated three or four times a day with solutions of naphthol or boracic acid, and the tonsils are brushed with absorbent cotton soaked in boracic acid. The general treatment consists solely in guarding against cold, children being kept in bed for four weeks, and on a diet of milk. This diet is selected on the ground that M. Jaccoud had found that serious nephritis did not occur in scarlatinal patients who took nothing but milk.

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(269) Infant Feeding and Infant Mortality.

At the meeting of the Académie de Médecine of Paris, on November 4th (*Bull de l'Acad. de Méd*, 44), M. de Villiers presented a long report on the documents submitted during the year to the Committee on Infantile Hygiene. He dealt chiefly with the representations made by the medical inspectors appointed under the Roussel law of 1884 enacted for the protection of infants put out to nurse. In spite of the fact that most of the infants born in Paris who are put out to nurse are sent into the provinces the mortality among them is still very high, the most frequent cause of death being congenital debility, next intestinal affections, then pulmonary, then cerebral, and lastly epidemic diseases. As showing the effect of greater care in artificial alimentation, some figures given by Dr. Sutils for a district in Seine et Marne are interesting. In the course of the six years during which medical inspection had been in force, the mortality among bottle-fed babies had fallen 60 per cent., while that of infants at wet nurse had fallen 50 per cent. In his general conclusions drawn from the examination of all the reports, M. de Villiers states that the majority of the inspectors advise (1) the official interdiction of feeding bottles with tubes; (2) that the nurses and wet nurses should be assured the regular payment of their wages, the duty of collecting the sums from the parents, or their provision from public sources, or by private benevolence being undertaken by the local authorities; and (3) that nurses and wet nurses should only be allowed to execute their functions after receiving certificates of fitness from the medical inspectors.

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(270) Accidental Gastro-intestinal Hæmorrhage in Infants.

In the *Revue Médicale de l'Est* (October 15th, 1890), Dr. S. Remy reports two cases of accidental gastro-intestinal hæmorrhage in newborn infants, and indicates a simple mode of treatment. Hæmorrhages of this class occur generally during the second day of life, but may be delayed until the third, fourth, or even sixth day. The quantity of blood lost is generally small, but may be large enough to produce acute anæmia and death. The hæmorrhage may be associated with intestinal ulceration, but more commonly is not so, and Dr. Remy adopts the theory put forward by Dr. Ribemont in a thesis, which would account for it as an "epistaxis" from the congested gastro-intestinal mucous membrane. This congestion does not appear to be due to any embarrassment of the respiratory function. After birth, however, the gastro-intestinal mucous membrane is called upon suddenly to become functionally active; this activity involves a greatly increased blood supply, and it is suggested that this physiological increase may sometimes become pathological, resulting in congestion sufficiently severe to produce hæmorrhage. The blood in most cases is passed from the bowel, sometimes from the stomach also, rarely from this organ alone. In the severer of the two cases reported by Dr. Remy, the infant vomited blood twenty-nine hours after birth, and again thirty-three hours after birth; a few hours later blood was passed from the anus, and this was repeated three times during the next twelve hours in spite of the exhibition of ergotine and perchloride of iron by the mouth. The child was fed on small quantities of its mother's milk drawn off as required, and was placed in a *couveuse*. After the fourth bloody stool a hot bath at 38° C. (100.4° F.) was given. The hæmorrhage did not recur, though the stools remained dark coloured for two days, and the child at once began to take the breast and gain in weight.

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(271) Alcoholism in Childhood.

Dr. T. D. Crothers (*Journ. Amer. Med. Assoc.*, 1890 vol. ii, p. 531), accepting the calculation that 70 per cent. of "alcohol cases" are "directly inherited," urges that more importance should be attached to a potential or actual alcohol craving in the children of alcoholic parents. He quotes cases in which this craving became manifest at very early ages, even as young as two months. He contends that "in all cases where alcoholic ancestors, even back to the second generation, can be traced, there are certain predispositions which must be considered in the treatment": (1) a tendency to exhaustion from feeble vitality and low power of restoration; (2) an instability of cell and nerve functions, especially of the higher cerebral centres; (3) a special affinity for all nerve stimulants. He considers that alcohol should not be given to these children in any form, and that in prescribing for them tinctures should be avoided, quoting a case in which alcohol craving seems to have been aroused by tincture of cinchona. Their diet also should be regulated; meat and meat broths should be replaced by less stimulating foods (farinaceous).

PHARMACOLOGY AND THERAPEUTICS.

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(272) Treatment of Respiratory Affections by Intra-tracheal Injections.

Dr. R. Botey, of Barcelona, has made experiments as to the possibility of injecting medicinal substances directly into the lower air passages through the trachea (*Siglo Medico*, August 17th, 1890). After referring to the experiments of Gohier (*Mém. et Obs, sur la Chirurgie et la Médecine Vétérinaires*, Lyons, 1816, t. ii, p. 419), Lelong, Delafond, and Levi, on animals, and an accidental one by Bichat (*Œuvres Complètes Chirurgicales*, t. ii, p. 266), on the human subject, he points out that contrary to what is usually believed, the sensibility of the respiratory mucous membrane is very slight except in the larynx and pharynx. His experiments were made partly on rabbits and partly on himself. In the former, after exposing the front of the trachea by a vertical incision, he thrust the needle of a Pravaz's syringe into the interior of the windpipe, and injected distilled water in quantities varying from one gramme to four cubic centimètres. When one gramme was injected drop by drop, so as to make the water trickle down the side of the air tube, the animal suffered no inconvenience. When two grammes were injected, transient symptoms of asphyxia were produced, but quickly yielded to artificial respiration. On killing the animal on the following day, no abnormal appearances of any kind were seen in the bronchi or lungs. An injection of three grammes in another animal gave like results. The animal into whose trachea four cubic centimètres of distilled water

were injected died in five minutes; the bronchi and lower part of the trachea were blocked with blood clots, the lungs congested and œdematous, and the bronchial tubes full of sanguinolent froth. A rabbit into whose trachea one gramme of distilled water was injected nine days in succession suffered no inconvenience whatever from the treatment, and when killed some days later the bronchial tubes and the lungs presented no trace of abnormality. When half a gramme of nitrate of silver (½ per cent.) was used instead of water, the animal showed signs of uneasiness for about half an hour, and then recovered completely. On killing it forty-eight hours after the injection, a few dirty white patches of partly detached epithelium were seen on the mucous membrane of the trachea and larger bronchi; the rest of the air passages showed no sign of the action of the caustic. Another rabbit, into whose trachea half a gramme of bichromate of potash (½ per cent.) was injected, suffered little inconvenience, and when killed twenty-four hours later the respiratory mucous membrane presented no trace of inflammation. When an equal quantity of the same solution was injected into the stomach through an œsophageal tube, the stomach and lower part of the gullet were found acutely inflamed. This difference in effect is due, according to Botey, to the extreme rapidity with which the respiratory mucous membrane absorbs fluids; the caustic has thus no time to produce its characteristic local action. The experiments on his own person were carried out through the mouth after previous cocainisation of the larynx He first injected thirteen to fourteen cubic centimètres of distilled water into his trachea by means of a syringe with a curved nozzle, long enough to reach below the vocal cords, the injection being made drop by drop with the point of the nozzle held close to the tracheal wall, so as to leave room for the passage of air. The only effect noticed was that the pulse fell from 80 to 76, and the respirations from 21 to 19. This lasted for an hour and a half. There was no cough or feeling of suffocation at the moment of injection. On the following day he injected, in the same way, 25; three days later, 37; and finally as much as 50 grammes of distilled water, with no disagreeable effects. He is confident that he could, if necessary, have injected 100 cubic centimètres without the slightest risk. In a patient suffering from laryngo-tracheal syphilis, Botey, with the precautions just described, injected 12 cubic centimètres of a 1 per cent. solution of iodide of potassium. On the first occasion, owing to incomplete cocainisation, there was some coughing, but two days later 15 grammes of the same solution were injected without causing any discomfort. On seventeen successive occasions, at intervals of forty-eight hours, Botey injected into this patient's trachea 25 cubic centimètres of a 1 per cent. solution of iodide of potassium, to which 1 centigramme of bichloride had been added, each injection, therefore, consisting of 25 grammes of water, 25 centigrammes of the iodide, and 2½ milligrammes of the bichloride. Under this treatment the disease, which had proved refractory to other measures, "yielded completely, as if by enchantment, in less than five weeks." At the Congress of the Italian Society of Internal Medicine recently held in Rome (*Riforma Medica*, November 3rd, 1890), Dr. G. Masini, of Genoa, said that he had tried intratracheal injections of creasote oil in six patients (5 men and 1 women) suffering from phthisis. The cases were selected as illustrating every degree of severity of the disease. In two cases with wasting, night sweats and other symptoms, but no bacilli in the sputum, the pulmonary symptoms disappeared completely in one, almost entirely in the other. In two other cases, the patients gained weight, the fever subsided, and expectoration diminished, but there were still bacilli in the sputum. In one of the two remaining cases the treatment had to be discontinued; in the other there was only slight diminution of expectoration, and a little gain in weight. Dr. Masini showed a special syringe which he had devised, with which, he said, it was easy to inject fluid into the trachea, or into one or other bronchus. Dr. Gualdi, of Rome, said the method had been tried at Rome with solutions of oil of eucalyptus, and menthol.

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(273) Intravenous Injection of Salt Water in Anæmia.

M. F. CARTIER (*Union Médicale*, September 18th and 20th, 1890) describes a case where anæmia was caused by ulcer of the stomach with hæmatemesis and melæna. A litre (one pint and three-quarters) of a saline solution was injected into the basilic vein by means of the simple apparatus used by M. Galante for the same purpose in the cholera epidemic of 1884. Hayem's solution was used; it consists of pure chloride of sodium 5 parts, pure crystals of sulphate of soda 10 parts, water 1,000 parts. The salts are dissolved; the fluid is filtered, and lastly heated in water-bath at 100° F. The bottle was kept in warm water during the infusion, and the india-rubber bulb which served to aspirate the fluid from the bottle and to inject it into the vein was likewise held in a basin containing warm water, so that there might be no loss of heat. The injection lasted nearly forty minutes. The patient, a girl aged 18, was unconscious. Half an hour after the injection she had a rigor. In the evening free micturition (previously suspended for forty-eight hours) took place. Slowly, but surely, the patient recovered; no more blood was passed either by the mouth or from the bowel. The intravenous injection of saline solutions is preferable in some respects to transfusion of blood, for a subject ready and fit for transfusion is often hard to find; the operation is very difficult and requires several assistants. Besides, the elements of the injected blood do not apparently reach their destination unchanged and still fit to act on the economy as they should do. Lastly the blood nourishes, but cannot check hæmorrhages. Chloride of sodium appears to act as a hæmostatic, and the bulk of fluid water acts beneficially in other ways in supplying the physiological wants of an extensively anæmic subject. Intra-arterial injection of saline fluids is dangerous. In one case where the radial artery was opened for the purpose gangrene of the hand occurred and amputation of the forearm had to be performed.

BACTERIOLOGY.

(274) Formation of Acid and Alkaline Substances by Bacteria.

DR. THEOBALD SMITH, of Washington (*Centralbl. f. Bakt. u Parasitenk.*, B. viii, No. 13, September 19th, 1890, p. 389), following Loeffler's observations, records some interesting experiments on the formation of acids and alkalies by bacteria, and he comes to the conclusion that it is necessary to know the medium on which an organism is growing before one can apply the classification into acid and alkaline forming organisms. He finds, for instance, that the hog cholera bacillus when grown on slightly alkaline peptone bouillon gives a distinctly alkaline reaction, whilst if traces of glucose or of sugar are added, a weak acid reaction is obtained in the earlier stages of the growth of the cultivation, which after a time disappears, and the cultivation becomes alkaline. If a

larger quantity of grape sugar is added, the acid reaction appears to continue almost indefinitely. Grown on Petruschki's "litmus whey," in which the milk sugar is retained, hog cholera bacillus gives an alkaline reaction, whilst an organism which in most respects is closely allied to it, the bacillus coli, gives an acid reaction. Smith thinks that the more profuse cultivations of the hog cholera bacillus that are obtained from a slightly acid cultivation medium are due to the combination of some alkaline substance formed by the organism with the weak acid, and this substance being thus converted into a salt can interfere less with the growth of the micro-organism. He observed that in the growth of the typhoid bacillus on media containing sugar, the acid reaction was always obtained, but that in such cases there was no production of gas. A very slight trace of sugar, even that normally present in blood, or a trace accidentally present, is quite sufficient to give the acid reaction, and he could observe no difference in the secretion of the typhoid bacillus whether he added one drop or six of his sugar solution to the nutrient medium.

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(275) Peroxide of Hydrogen as a Steriliser of Milk.

DR. HEIDENHAIN (*Centralblatt f. Bakt. u. Parasitenk.*, Bd. viii, No. 16, October 8 h, 1890), referring to Dr. Altehoefer's researches on the use of peroxide of hydrogen in the disinfection of water, says that it may also be useful for sterilising milk, although he is not able to say as yet how the digestibility of milk so treated will be affected. He finds that children take it readily, and that the peroxide, mixed in the proportion of five or six tablespoonfuls to 1 litre of milk, does not cause the milk to curdle or to become sour, even when it is left in a room at summer temperature for forty-eight hours, the slight acid reaction with litmus paper being due to the action of the disinfecting material and not to the production of lactic acid. The cream that rises is so sweet that butter cannot be made from it for a very considerable length of time. If further researches confirm these results and are in other ways satisfactory, there is some hope that a long-felt want will be met. It will in any case be a great advance in the treatment and preservation of milk.

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(276) Immunity of Fowls against Anthrax.

DR. K. E. WAGNER (*Annales de l'Institut Pasteur*, p. 570, No. 9, t. 4, September 25th, 1890) has repeated Pasteur's original experiments of producing anthrax in fowls by placing them in water and so lowering their temperature, and he has made a number of observations to determine, if possible, how this lowering of the temperature acts. Sutures saturated with spores of the anthrax bacillus were passed into the anterior chamber of the eye of a fowl, and also subcutaneously. On withdrawing the threads at the end of twenty-four hours he found that numerous bacilli had developed, and a few leucocytes had invaded the thread; that at the end of forty-eight hours there were fewer bacilli but many leucocytes, a few of which had taken in bacilli; at the end of seventy-two hours there were few free bacilli, but many leucocytes and many phagocyte cells containing degenerating bacilli. He concludes that where leucocytes can get access to the bacilli the latter do not retain their virulence for long. An additional proof of this he finds in the fact that when anthrax virulent to rabbits is injected into the circulation of the fowl it is gradually destroyed much more rapidly than in the subcutaneous tissues or in the anterior chamber. The anthrax bacillus outside the body is gradually attenuated at from 42° C. to 43° C., and is killed in nine days; it does not form spores at this temperature. Although fowls do not usually contract anthrax, the injection of bacilli almost invariably produces a rise in their temperature of from 1 to 2.5° C.; in one case the temperature rose to 44.3° C. The fever subsides as soon as the bacillus disappears from the blood. The poison appears to act on the nervous centres, giving rise to altered temperature, but the destruction of the bacilli is due, Wagner thinks, to the activity of the leucocytes, which display the most vigorous movements at a temperature of 45° C. to 46° C. He succeeded in producing anthrax in fowls, to which he had administered antipyrin in order to reduce their temperature. Chloral hydrate also paralyses the leucocytes and allows of the production of anthrax, but not with any degree of certainty. He concludes that the temperature acts not directly on the bacillus but indirectly by increasing the activity of the phagocytic action of the leucocytes; that the bacillus may still preserve its virulence in the blood of the fowl, although it does not produce any symptoms beyond rise in temperature; that where the leucocytes are altered by cold or anæsthetics, etc, they cannot readily get to the points of infection, and the bacilli multiply rapidly, as they are no longer destroyed, and may eventually give rise to charbon in the fowl.

DERMATOLOGY.

(277) Cutis Laxa, Fibroma Molluscum, and Angioneurosis.

DR. DU MESNIL (*Verhandlungen physikalisch-medicinischen Gesellschaft zu Würzburg, N.F.*, Band xxiv, No. 5) has investigated the condition of the skin in cutis laxa, in regard to which he has come to the following conclusions: 1. The condition of cutis laxa depends upon a change of the tissues of the cutis into a myxomatous tissue. 2. The myxomatous tissue has probably arisen from an anomaly of development, in so far as from the cells of the cutis in the embryonal period, in place of formed fibrous connective tissues, a structureless, gelatinous, connective substance was separated. 3. This quality of the cells of the connective tissue of the cutis is continued beyond the embryonal period, and remains through the whole life. As regards fibroma molluscum, Dr. Du Mesnil considers that all cases of that disease are not associated with fibro-neuroma of the great nerves. The origin of multiple skin fibroma is not always referable to a primary growth of peri- and endoneurium of the nerves of the skin. A number of cases of fibroma molluscum are produced by a primary growth of the investing connective tissue of the vessels and glands, and the vascular system is especially involved in it. With regard to reflex angioneurosis, he concludes, as the result of a careful examination, clinically and otherwise, that through the presence of anæmia and the defective nutrition resulting from it, the involved nerve tracts are placed in a condition of increased irritation. The anomaly of the integument is a sympathetic neurosis, and the irritation produced in the skin through the sympathetic manifests itself in the form of erythema and purpura. Certain forms of erythema exsudativum, erythema nodosum, and purpura arise as reflexes from lesions of the sympathetic.

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